

Important issues when designing a NS-FFAG ERL accelerator (eRHIC):

1. Optimization of FFAG cell design to minimize synchrotron radiation, orbit spread, path length spread, ...
2. Development of the lattice solutions for detector bypasses, straight sections, arc-to-straight matching sections, a technique for extraction into the IR beamline from the FFAG beamline.
3. Beam orbit measurements and corrections in the FFAG beam lines.
4. Chromatic corrections (?) (Orbit tolerances).
5. Chromaticity and BBU.
6. Beam loss: tolerance and control.
7. Ion clearing gap; bunch pattern.
8. Pathlength and R_{56} : tolerances and control.
9. Magnet design (permanent magnet, HTS, electromagnets).
10. Performance scaling with number of turns.
11. Including phase shifter on many turns.
12. Scaling versus non-scaling FFAG for a recirculating linac.